
City of Carnation Water Reuse Interest Letter



CITY OF CARNATION

June 23, 2004

John Komorita, P.E.
Project Manager
King County Wastewater Treatment Division
201 South Jackson Street
Seattle, WA 98104-3855

Dear John,

The City of Carnation has decided to not pursue water reuse at the time that the new sewer system is installed, 2007. The City understands that if conditions related to reuse change in the future, the City would have the opportunity to utilize the reclaimed water from the new treatment plant. The City would also like to claim first rights to the reclaimed water, but understands that this issue will need to be negotiated with the County and be consistent with the County's overall water reuse policies. Finally, the City understands that the wetlands enhancement alternative that the County is actively pursuing for the treatment plant is also considered a form of reuse and fully supports this creative use of this valuable resource.

Water reuse was discussed at the February 10, 2004 Carnation City Council Special Sewer Meeting, an open public forum, where the Council decided that this would not be a good time to consider implementation of a water reuse program due to: 1) the cost of installing a water reuse pumping and conveyance system, 2) the apparent lack of potential users, 3) the expected rate that would be necessary to charge customers for the water and 4) the lack of adequate grant funding available to help limit the costs for reuse.

The estimated cost to design and construct a reuse pumping and piping system to convey Class A reclaimed water to the City's entire business and residential communities has been reported by the County to be about \$4.7 million. A pump station and reservoir owned and operated by the City would be needed to convey the reuse water to the homes in the higher elevations. The cost for the City system assumes that purple reuse pipe could be installed at the same time and in the same trench as the vacuum collection system. The estimated rate which the City would have to charge in order to recover these capital costs, and the annual cost for operations and maintenance of this system, would be about \$7 to \$8 per one hundred cubic feet (\$/ccf). This compares to the existing rate of \$4.42/ccf (\$26.50 per 600ccf) which the City presently charges for potable water.

Individual business and home owners would also need to construct a separate reuse water system for lawn irrigation, toilet flushing or other onsite uses. This cost is not included in the \$4.7 million figure for the City's system. The expected cost to the individual owners would be over \$3,000 per onsite system and include connecting to the City reuse water main out in the street and installation of a landscape irrigation system and an entirely new separate water system within the home or business. Costs for retrofitting a school or park would be much greater.

If a reuse system is installed in the City, there would be no savings in the treatment plant since some form of outfall or other discharge option would still be required. This is because reuse in the City would primarily consist of irrigation during the summer months. A means for handling the treatment plant effluent would still be required during other times of the year.

Both the City and the County have been searching extensively for any form of grant which could help offset the costs of the sewer system. It would appear that the same grants that we are researching for the sewer system are the same as those that would apply for a reuse water system. Thus, we could add in the cost of the reuse system in our ongoing grant and loan applications, but we would likely not receive much more with or without the reuse system. There just does not appear to be a lot of grant monies available for sewers or reuse as others have claimed.

We understand that the County is considering a filling station at the treatment plant where customers could bring trailers or tankers to fill with reclaimed water for use such as irrigating parks, etc. We further understand that tapping stations could also be provided along the effluent conveyance line leading out to whichever discharge option is selected. If the City determined in the future that reuse should be implemented, the City could install pump stations at these tap locations to convey the reuse water to the appropriate customers.

The average amount of reuse water which would be available is about 360,000 gallons per day, or 0.36 million gallons/day (mgd). Typical uses of reuse water would be for irrigation at homes, businesses, schools, golf courses, farms and parks or for commercial uses such as for cooling. For Carnation, there would appear to be very limited ongoing uses of potable water for irrigation or for commercial activities. The golf course would be one exception, however, the Carnation golf course presently has a water right to take water from the Snoqualmie River, and is located relatively far away for a pipeline. Thus, if there are limited ongoing potable water uses, or in the case of the golf course the use is presently for free, one could assume that there would be limited demand or willingness to pay for reuse water in the near future. Also, the estimated rates to recover the costs of the reuse system assume that 100% of the water would be utilized for reuse. Based on existing uses, the amount of water that is reused would be less than the amount (360,000 gpd) produced. Thus, the estimated rates would be higher than those shown above.

In closing, the City does not believe it is prudent to pursue water reuse at this time without a definite project to construct. The City's rate payers will already have a great burden to pay for the sewer system. Having to pay more for a reuse system appears not to be practical at this time. The City, however, reserves the right to negotiate with King County if a viable opportunity presents itself to construct.

If you have any questions, please contact me.

Sincerely,



Bill Brandon
Carnation City Manager

Cc: Carnation City Council members
Kelly Snyder, Roth Hill Engineers